

THE RELATIONSHIP BETWEEN PARENTAL SCREEN TIME INTENSITY AND SPEECH AND LANGUAGE DEVELOPMENT IN CHILDREN AGED 4–5 YEARS

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ABSTRAK

Orang tua memiliki peranan krusial dalam lingkungan keluarga sebagai pemberi rangsangan dan interaksi verbal yang diperlukan untuk menunjang kemampuan bicara dan bahasa anak. Intensitas tinggi penggunaan gadget pada orangtua dapat mengganggu kualitas interaksi tersebut sehingga berisiko terhadap perkembangan bicara dan bahasa anak. Tujuan penelitian ini adalah menganalisis intensitas penggunaan gadget orangtua dengan perkembangan bicara dan bahasa anak usia 4–5 tahun di TK Al-Huda Kota Kediri. Penelitian ini tergolong ke dalam jenis penelitian korelasional dengan desain cross sectional, serta menggunakan total sampel sebanyak 42 orangtua dan anak usia 4–5 tahun. Analisis data menggunakan uji statistik Spearman rank. Sebagian besar orangtua memiliki intensitas penggunaan gadget dalam kategori sedang (76,19%), dan anak berada pada perkembangan bicara dan bahasa yang sesuai harapan (76,2%). Analisis data menunjukkan terdapat korelasi yang signifikan antara intensitas orang tua dalam menggunakan gadget dengan perkembangan bicara dan bahasa anak ($p = 0,000$), dengan nilai koefisien korelasi negatif sedang ($r = -0,608$). Artinya, Peningkatan intensitas penggunaan gadget oleh orang tua berbanding lurus dengan meningkatnya risiko keterlambatan perkembangan bicara dan bahasa pada anak. Intensitas penggunaan gadget orangtua dengan kategori sedang dapat membangun kualitas interaksi yang baik, sehingga perkembangan bicara dan bahasa dapat berkembang sesuai harapan. Diharapkan orangtua dapat mengurangi durasi dan frekuensi dalam menggunakan gadget, khususnya saat berinteraksi dengan anak, agar perkembangan anak tetap optimal sesuai dengan tahap usianya.

Kata Kunci : Gadget Orangtua, Perkembangan Bahasa, Perkembangan Bicara, Anak Usia Dini

ABSTRACT

Parents have a crucial role in the family environment as providers of stimulation and verbal interaction which are needed to support the ability of children's speech and language. High intensity of gadget use in parents may interfere with the quality of the interaction so that it becomes a risk to the development of children's speech and language. The purpose of this research was to analyze the intensity of parents' gadget use with the speech and language development of children aged 4–5 years at TK Al-Huda Kota Kediri. This research was included in correlational research with a cross-sectional design, and used a total sample of 42 parents and children aged 4–5 years. Data analysis used Spearman rank statistical test. Most of the parents had gadget use intensity in moderate category (76.19%), and the children were in speech and language development according to expectation (76.2%). The result of data analysis showed a significant correlation between the intensity of parents in using gadget and the development of children's speech and language ($p = 0.000$), with moderate negative correlation coefficient ($r = -0.608$). It means that the higher the intensity of gadget use in parents, the higher the risk of children experiencing delay in speech and language development. Parents' gadget use in moderate category can build good quality of interaction so that speech and language development can grow according to expectation. It is expected that parents reduce the duration and frequency in using gadget, especially when interacting with the child, so that the child's development remains optimal according to their age stage..

Keywords : Parents' Gadget Use, Language Development, Speech Development, Early Childhood

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INTRODUCTION (PENDAHULUAN)

Language serves as a medium of communication that enables individuals to convey ideas, emotions, and information. One of the important roles of language is to facilitate communication and establish social relationships [1]. Language plays a vital role in various aspects of daily life, ranging from expressing desires and opinions to explaining complex thoughts. Without language, individuals would experience difficulties in communicating with their social environment [2].

Speech and language development in young children is a crucial aspect that influences various dimensions of child growth and development. Language is not only related to speaking ability but is also closely associated with motor and sensory development, as well as children's cognitive intelligence and social skills [3]. One of the common problems in language development is delayed speech. Children with speech delays tend to have difficulty expressing their feelings, which may lead to frustration due to their inability to communicate effectively. Difficulties in communication can subsequently affect children's social abilities and academic performance [4].

These developmental problems are also influenced by environmental factors, particularly within the family, which plays an important role in providing stimulation to support children's language development. Family interactions are closely associated with motivation and guidance in speaking, as well as opportunities for children to

practice and adapt to communication. In addition, parents serve as role models who help children learn and master language. Therefore, the family environment is a key factor in the development of children's language skills [5].

However, contemporary family environments face challenges due to the increasing use of technology, which has blurred the boundaries between daily life and screen-based activities [6]. This situation affects face-to-face interactions between parents and children and reduces the quality of both verbal and nonverbal communication, which are essential for children's development [7]. When parents are overly focused on their gadgets, they tend to overlook their children's needs, resulting in disrupted interactions. Ultimately, this condition may hinder children's overall development [8].

This condition is further supported by data on the prevalence of speech and language delays globally and nationally. In the United States and Canada, the prevalence is estimated at 8–12% among preschool children [9], while in Pakistan it reaches 46.5% [10]. In Indonesia, the Indonesian Pediatric Society (IDAI) reports that approximately 5–10% of preschool children experience speech delays, while a longitudinal study reported a prevalence of 42.5% among children under five years of age [11]. In East Java, in 2017, approximately 34% of toddlers were reported to have developmental deviations. In 2023, the Kediri City Health Office recorded 5 cases of speech and language developmental deviations among 16,311 toddlers. In 2024, TK Al-Huda

Kediri recorded 11 out of 141 children experiencing problems with speech and language development.

These problems are closely associated with a lack of intensive and responsive communication. Insufficient communication may result in young children having limited opportunities to practice cognitive skills related to language development [12]. Limited social interaction has been shown to significantly hinder children's language development [13].

One factor contributing to reduced communication intensity is the increasing use of gadgets by parents. Studies have shown that parental gadget use can significantly reduce parental sensitivity and interfere with important processes involved in emotional adjustment and caregiver-child connectedness, particularly face-to-face communication, eye-gaze coordination, and joint attention [14]. Children who have limited involvement in direct interaction tend to experience less optimal development [15].

Previous research has shown that adults typically use gadgets for one to two hours per session, with usage recurring several times throughout the day [16]. Parents spend an average of approximately four hours per day using gadgets [17], and 75% of parents reportedly use gadgets at least three times a day while they are with their children [18]. The State of Mobile 2024 report indicated that the average daily gadget use among Indonesians

reached 6.05 hours [19].

Various recommendations have been proposed to reduce gadget use, including reducing or limiting gadget use and implementing gadget-free practices during meals [20], creating dedicated family time without gadgets, and maintaining eye contact during interactions [21].

Several previous studies have demonstrated an association between gadget use intensity and children's speech and language abilities [22][23]. However, most previous research has focused on gadget use by children themselves. In contrast, parental gadget use during direct interactions with children may also have a substantial influence on children's speech and language development. Based on these issues, this study aims to further examine the relationship between the intensity of parental gadget use and speech and language development among children aged 4–5 years.

METHODS (METODE)

This study employed a quantitative approach using a correlational design with a cross-sectional method. The study was conducted in June 2025 at TK Al-Huda, Kediri City. The study population consisted of all children aged 4–5 years enrolled at TK Al-Huda, totaling 71 children, with a sample of 42 participants. The samples were selected using a proportionate stratified random sampling technique. The inclusion criteria were parents or primary caregivers who accompanied the children in their daily activities, children in good health, and

participants who were willing to take part in the study.

Two instruments were used in this study: a questionnaire assessing parental gadget-use intensity and an observation sheet assessing children’s speech and language development. Validity testing of the parental gadget-use intensity questionnaire and the child speech and language development instrument showed that all items were valid.

The study obtained ethical approval from the Research Ethics Committee of Poltekkes Kemenkes Malang and adhered to research ethics principles, including *informed consent*, *beneficence*, *respect*, and *justice*.

RESULTS (HASIL)

Table 1. Frequency Distribution of Parental Gadget-Use Intensity

Category	Frequency	Precentage
High	5	11.9%
Moderate	32	76.19%
Low	5	11.9%
Total	42	100%

The analysis showed that among the 42 parents who participated as respondents, the majority had a moderate level of gadget-use intensity, comprising 32 parents (76.19%). Five parents (11.9%) were categorized as having high gadget-use intensity, while another five parents (11.9%) had low gadget-use intensity.

Table 2. Distribution of Speech and Language Development Among Children Aged 4–5 Years

Category	Frequency	Precentage
Developing as Expected	32	76.2%
Questionable	6	14.3%
Developmental Delay	4	9.5%
Total	42	100%

The analysis showed that the majority of children were categorized as developing as expected, with 32 children (76.2%). Six children (14.3%) were categorized as questionable, while four children (9.5%) were identified as experiencing developmental delays in speech and language.

Analysis of the Relationship Between Parental Gadget-Use Intensity and Children’s Speech and Language Development

The analysis of the relationship between parental gadget-use intensity and children’s speech and language development, as presented in Table 3, showed that among parents with high gadget-use intensity, 4 children (80%) experienced speech and language developmental delays, while only 1 child

In the group with moderate parental gadget-use intensity, the majority of children were categorized as developing as expected, with 26 children (81.25%), while 6 children (18.75%) were categorized as questionable. No children in this group experienced developmental delays.

Meanwhile, among parents with low gadget-use intensity, all 5 children (100%) demonstrated speech and language development categorized as developing as expected. No children in this group were categorized as questionable or experienced developmental delays.

The statistical analysis showed a correlation coefficient of $r = -0.608$ with a significance value of $p = 0.000$, indicating a statistically significant relationship between parental gadget-use intensity and children's speech and language development. The negative correlation indicates that higher parental gadget-use intensity tends to be associated with poorer speech and language development outcomes in children.

DISCUSSION (PEMBAHASAN)

Based on the findings presented in Table 1, parental gadget-use intensity was divided into three categories: high (more than 3 hours and more than 3 times per day), moderate (approximately 3 hours and 3 times per day), and low (less than 3 hours and less than 3 times per day when with the child). The majority of respondents were in the moderate category, comprising 32 respondents (76.19%). This finding indicates that most parents at TK Al-Huda, Kediri City, use gadgets relatively frequently, although their usage has not yet reached the high-intensity category. Horrigan (2002) and Christiany (as cited in Arimbi et al., 2022) stated that duration and frequency influence gadget-use intensity. Appropriate use should not

exceed 3 hours and should not be continuous when parents are with their children. This finding is consistent with a study by Ali et al. (2020), which reported that mothers used gadgets for an average of 3 hours per day, while 16% used them for 5–14 hours and 6.7% reported feeling addicted.

The presence of parents with high gadget-use intensity is an important concern because it may affect the quality of interaction with children. In this context, midwives play an important role as educators for parents by increasing awareness of appropriate gadget-use management, such as reducing gadget use when interacting with children, turning off notifications during family time, and adjusting gadget-use schedules according to the activities of both parents and children [24].

Identification of Speech and Language Development Among Children Aged 4–5 Years

Based on Table 2, which presents data on children's speech and language development, the majority of children were categorized as developing as expected, comprising 32 children (76.2%). Furthermore, 6 children (14.3%) were categorized as questionable, while 4 children (9.5%) were identified as experiencing developmental delays. These findings support the theories of Soetjiningsih & Gde Ranuh (2013) and the Ministry of Education and Culture (2020), which explain that children aged four to five years should be able to use more complex sentences, understand questions, and actively participate in meaningful conversations. The high proportion of

children developing as expected reflects adequate stimulation during the language acquisition process, although some children still require further attention.

This finding is consistent with a study by Khayati et al. (2023) conducted at KB-TK Aisyiyah Sumberejo Klaten, in which 88.64% of children demonstrated age-appropriate development based on the Developmental Pre-Screening Questionnaire (KPSP). This indicates that with appropriate stimulation, preschool-aged children can achieve optimal development, particularly in speech and language.

Parental attention and verbal responsiveness are important components in supporting children's language development. Insufficient verbal stimulation from the immediate environment may hinder children's language abilities. Such stimulation is closely related to parenting practices in daily activities. Parenting styles reflect how parents communicate and interact with their children [25]. Mothers' communication patterns also influence children's language development. Mothers who engage in active communication with their children tend to promote more optimal language development [26].

Analysis of the Relationship Between Parental Gadget-Use Intensity and Speech and Language Development Among Children Aged 4–5 Years

The Spearman test showed a significant negative relationship ($p = 0.000$; $r = -0.608$) between parental development.

gadget-use intensity and speech and language development among children aged 4–5 years at TK Al-Huda, Kediri City. The higher the intensity of parental gadget use, the greater the risk of delayed speech and language development in children.

Excessive gadget use can interfere with the quality of face-to-face interaction within the family and reduce parental sensitivity to children's communication needs. Zhang et al. (2024) stated that emotional disturbances associated with gadget use may cause children to miss important opportunities for learning through verbal interaction. The physical presence of parents does not guarantee emotional presence when their attention is diverted by gadgets, resulting in reduced meaningful interactions that are essential for speech and language development [27].

Gadget use does not need to be completely avoided but should be managed appropriately. Parents should limit gadget use when interacting with their children, provide adequate verbal stimulation, and establish responsive communication to support optimal language development.

CONCLUSION (PENUTUP)

The findings showed that parental gadget-use intensity was predominantly in the moderate category, while most children aged 4–5 years demonstrated speech and language development that was

developing as expected. These findings highlight that excessive parental gadget use when interacting with children may affect the quality of interaction, which may ultimately influence children's communication development.

As a follow-up to these findings, parents are encouraged to limit gadget use when interacting with their children and to actively build positive verbal and emotional communication. Healthcare professionals are expected to utilize these findings in educational activities and early detection of speech delays in children. Future researchers are encouraged to explore the effects of parental gadget use on other aspects of child development, including fine motor skills, gross motor skills, social development, and independence, to enrich scientific evidence in the field of child growth and development.

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